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**United States Patent** [19][11] **Patent Number:** **5,970,976****Zhao**[45] **Date of Patent:** **Oct. 26, 1999**

[54] **APPARATUS AND METHOD FOR  
GENERATING PRESSURE CHANGES IN A  
MAMMALIAN ORAL/THROAT CAVITY**

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[57] **ABSTRACT**

[51] **Int. Cl.<sup>6</sup>** ..... **A61M 16/00**

[52] **U.S. Cl.** ..... **128/204.23; 128/204.21;**  
600/529

[58] **Field of Search** ..... 128/204.23, 204.21,  
128/204.22, 200.24, 202.16, 205.19, 848;  
600/529, 543

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Predetermined pressure changes in the oral and throat cavity is achieved by inducing at least a partial vacuum in the mouth and throat area of a mammal in temporal coordination with the mammal's breathing pattern. The partial vacuum is selectively applied to the mouth and throat cavity only during inhalation cycles of the breathing pattern. A further aspect of the invention provides for additionally inducing a positive or atmospheric pressure in the mouth and throat cavity only during exhalation cycles of the breathing pattern.

**12 Claims, 3 Drawing Sheets**

